

deals with the alleged phosphorescence in flowering plants, and concludes that the cases cited are either counterfeit or due to electrical phenomena (St. Elmo's fire).—WILLIAM CROCKER.

MINOR NOTICES

The nuclei of Protista.—The name "Protista," applied by HAECKER to the lowest animals and plants, has failed to receive general acceptance, even among zoologists, and the forms are found under both the protozoa and unicellular plants. In any consideration of the phylogeny of the nucleus these forms must be of great interest, because the nuclei of the metazoa and of the higher algae and fungi are too highly differentiated to throw much light upon such a subject as the origin of the nucleus. A paper by HARTMAN⁵ deals almost entirely with the nucleus of protozoa and its significance as the forerunner of the nucleus of the metazoa. Botanists working with the nucleus in the lower algae and fungi, and especially with flagellates, cannot afford to overlook this paper.—CHARLES J. CHAMBERLAIN.

Symbolae Antillanae.⁶—In continuation of this important work Professor URBAN in cooperation with several eminent specialists has issued the second and third fascicles of the seventh volume. There are included descriptions of approximately 300 new species, several varieties, and a few new combinations. The following new genera are proposed: *Sarcopilea* of the Urticaceae, *Plethadenia* of the Rutaceae, *Hypocoton* of the Euphorbiaceae, *Ottoschulzia* of the Icacinaceae, *Maga* of the Malvaceae, *Poicillopsis* of the Asclepiadaceae, *Tuerckheimocharis* of the Scrophulariaceae, and *Shaferocharis* of the Rubiaceae.—J. M. GREENMAN.

NOTES FOR STUDENTS

Root-tubercles of non-leguminous plants.—In an extremely long and somewhat obscure article, which is not made any clearer by the vague illustrations accompanying it, PEKLO⁷ gives an account of his studies of the organisms in the root-tubercles of *Alnus* and *Myrica*. With respect to the morphology of the organisms the author adds nothing to what is known from earlier accounts, especially the excellent account of SHIBATA with which he agrees in all essential details. PEKLO finds in the cells of the root-swelling of *Alnus* and *Myrica* masses of filaments with more or less radial arrangement and termi-

⁵ HARTMAN, MAX, Die Konstitution der Protistenkerne und ihre Bedeutung für die Zellenlehre. 8vo. pp. v+54. figs. 13. Jena: Gustav Fischer. 1911.

⁶ URBAN, I., Symbolae Antillanae seu fundamenta florae Indiae Occidentalis. Vol. VII, fasc. 2, pp. 161-304, 15 June; fasc. 3, pp. 305-432, 1 October. Leipzig: Fratres Borntraeger. 1912.

⁷ PEKLO, J., Die pflanzlichen Aktimonykosen. Centralbl. Bakt. II. 27:451-579. 1910.